

III - RESOURCE QUALITY CRITERIA

B. RESOURCE QUALITY CRITERIA FOR WATER

1. Water Quantity

(a) Excess from seeps

Excess subsurface water that flows onto the land surface restricting the desired land use.

Criteria for all land uses: Excess water does not restrict suitable land use and does not restrict operational activities.

(b) Excess from flooding

Water accumulates on the land surface restricting the desired land use and interferes with the growth of the plant species of concern.

Criteria for all land uses: Excess water does not restrict suitable land use and does not restrict operational activities.

(c) Excess subsurface water

Shallow groundwater accumulates or rises in the soil profile and interferes with the desired land uses on-or off-site.

Criteria for all land uses: Water channels and/or structures meet the minimum standards in the NRCS Practice Standards or other guidance documents to collect and remove water for the land use.

(d) Water removal system

Channels and/or structures to collect and remove water from land cannot safely or adequately discharge the expected flows.

Criteria for all land uses: There is no safety hazard or observable damage to land, crops, or structures resulting from inadequate water removal systems.

(e) Water management, irrigated land

Inefficient use of existing water supplies (applied water, precipitation, soil-stored water) result in excessive, nonrecoverable losses or restricted alternative uses.

Criteria:

- 1) Considering farm economics and available technology, the current irrigation method shall be the most appropriate for the crops, soils, topography and climate.
- 2) The irrigator has adequate control of the frequency, rate and duration of water application to each field.
- 3) Water is conveyed through pipelines and/or lined ditches in areas where water loss due to seepage is a concern on soils with a permeability of greater than 0.60 inches per hour (moderate or greater as listed on the Soil-5 or published soil survey information).
- 4) Irrigation timing and amount decisions are planned at replace depleted soil moisture (or the amount consumed by the crop) and applying a determined amount of water for salt leaching.
- 5) Irrigation system design and operation and maintenance program (surface and pressurized systems) follow progressive local standards.
- 6) Irrigation runoff or tailwater is re-used beneficially. Beneficial re-use may be on or off farm.

(f) Water management, non-irrigated land

Inefficient use of precipitation and management of excess water. Includes managing water yields for surface flow, storage and/or ground water recharge.

Criteria for all land uses: Vegetation, cropping sequences, and cultural operations are managed for efficient use of precipitation by minimizing water losses to runoff and evaporation, thereby inducing positive effects on the plant-soil-moisture relationship, on groundwater recharge, and on water yield downstream.

(g) Restricted capacity, deposition onsite.

Capacity of drainage ditches, road ditches, culverts, and canals in a management unit is restricted by sediment that originates within the management unit.

Criteria for all land uses: Designed flow capacity is maintained and sediment source areas treated to acceptable levels so they minimally contribute to sediment deposition problems.

(h) Restricted capacity, deposition offsite

Capacity of drainage ditches, road ditches, culverts, and canals in a management unit is restricted by sediment that originates from outside of the management unit.

Criteria for all land uses: Sediment source areas are treated to acceptable levels so they no longer contribute to sediment deposition problems.

(i) Restricted capacity, water bodies

Loss of storage capacity in water bodies or lakes

Criteria for all land uses: Sediment source areas are treated to acceptable levels to minimize contributions the identified problem.

2. Water Quality

(a) Groundwater contaminants, pesticides

The quality of groundwater for intended uses may be impaired because of contamination by pesticides (includes chemicals used to manage weeds, insects, diseases, etc.).

Criteria for all land uses: The use of known ‘leachers’ is minimized or eliminated on sites that have been identified as moderate or high-risk. Farming practices, including irrigation water management, minimize the transport of pesticides. (Refer to Waste Utilization – Practice 633)

(b) Groundwater contaminants, nutrients and organics

The quality of groundwater for intended uses may be impaired because of contamination by harmful levels of nitrogen or other nutrients.

Criteria for all land uses: Nutrient contamination to groundwater is minimized. Application of nutrients will be in accordance with Practices for Nutrient Mgt (590) and waste utilization (633). Farming practices, including irrigation water management, minimize the transport of nutrients and organics.

(c) Groundwater contaminants, salinity

The quality of groundwater for intended uses may be impaired because of contamination by elements including sodium, salinity, calcium, boron, selenium, etc. Aquifers of different quality are protected.

Criteria for all land uses: Alternatives to reduce or eliminate contributions to a groundwater salt problem will meet standards established by state and local regulations. Aquifers of different quality are protected from mixing.

(d) Groundwater contaminants, heavy metals

The quality of groundwater for intended uses may be impaired because of heavy metals such as iron, lead, zinc, copper, or cobalt.

Criteria for all land uses: Alternatives reduce or eliminate the adverse impacts to groundwater by heavy metals.

(e) Groundwater contaminants, pathogens

The quality of groundwater for intended uses may be impaired because of contamination of harmful levels of bacteria, virus, protozoans, or fungi.

Criteria for all land uses: Alternatives reduce or eliminate contributions to a groundwater pathogen problem.

(g) Surface water contaminants, pesticides

The quality of onsite or offsite surface water bodies or streams may be impaired by pesticides.

Criteria for all land uses: The amount of harmful and target pesticides leaving the treated area is minimized or eliminated and do not exceed established standards from federal, state, or local criteria. (Refer to Pest Management Practice 595)

(h) Surface water contaminants, nutrients and organics

The quality of onsite or offsite surface water bodies or streams may be impaired by harmful levels of nitrogen, other nutrients, or organic material.

Criteria for all land uses: The amount of nutrients/organic material leaving the treated area is minimized or eliminated and do not exceed standards from federal, state or local criteria. (Refer to Nutrient Management and Waste Utilization – Practices 590 and 633)

(i) Surface water contaminants, suspended sediment

The quality of onsite or offsite surface water bodies or streams may be impaired by harmful levels of suspended sediment and/or turbidity.

Criteria for all land uses: Suspended sediments leaving the site are minimized and do not exceed standards from federal, state or local criteria. Factors, including all farming practices, contributing to turbidity in the area of concern will be minimized.

(j) Surface water condition, low dissolved oxygen

The quality of onsite or offsite surface water bodies or streams may be impaired by low levels of dissolved oxygen.

Criteria for all land uses: Dissolved oxygen levels permit the intended use of the water. Amounts of sediment, nutrients, and organic material leaving the site have a minimal contribution to low dissolved oxygen problems.

(k) Surface water contaminants, salinity

The quality of onsite or offsite surface water bodies or streams may be impaired by elements of salinity such as sodium, calcium, boron, or selenium.

Criteria for all land uses: Amounts of salts leaving the site and potentially impacting surface waters are minimized.

(l) Surface water contaminants, heavy metals

The quality of onsite or offsite surface water bodies or streams may be impaired by heavy metals such as iron, lead, zinc, copper, or cobalt.

Criteria for all land uses: Amounts of heavy metals leaving the site and potentially impacting surface waters are minimized.

(m) Surface water condition, temperature

The quality of onsite or offsite surface water bodies or streams may be impaired by temperature.

Criteria for all land uses: Management actions including those impacting runoff and stream shading will minimize the potential for temperature related problems (usually high temperatures) on and offsite.

(n) Surface water contaminants, pathogens

The quality of surface water for intended uses may be impaired because of contamination of harmful levels of bacteria, virus, protozoans, or fungi.

Criteria for all land uses: Applied practices reduce or eliminate contributions to a surface water pathogen problem.

(o) Aquatic habitat

The quality of onsite or offsite aquatic habitat may be impaired by sediment, nutrients, organic matter, or other polluted conditions.

Criteria for all water uses: Riparian areas, streambeds, or open water provide suitable habitat for desired plant and animal species of concern to grow, reproduce, and perpetuate acceptable population levels.